

Appl. No. : 10/041,688
Filed : January 7, 2002

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A stable liquid adhesive for sealing a wound, the adhesive comprising:

a cyanoacrylate; a therapeutic agent comprising an antibiotic; ~~encapsulated in a microcapsule, and~~

a defect forming agent, ~~wherein the defect forming agent is capable of being removed from a cured cyanoacrylate matrix by solvation in an aqueous solution whereby a plurality of defects in the matrix are formed permitting release of the therapeutic agent from the matrix at a controlled rate, wherein the ; and~~

~~a microcapsule encapsulating said antibiotic, the microcapsule comprising comprises a protective shell configured to block chemical reaction between the antibiotic and the cyanoacrylate by that blocks undesired reactions by substantially preventing direct contact of the antibiotic and the cyanoacrylate, whereby substantial to avoid premature curing of the adhesive prior to application is prevented, and wherein the microcapsule is configured to provide provides long-term controlled release of the antibiotic from the cured cyanoacrylate matrix.~~

2. (Previously presented) The liquid adhesive of claim I, wherein the cyanoacrylate comprises butyl cyanoacrylate.

3. (Previously presented) The liquid adhesive of claim I, wherein the cyanoacrylate comprises octyl cyanoacrylate.

4. (Previously presented) The liquid adhesive of claim I, wherein the defect forming agent comprises a hydrophilic polymer.

5. (Previously presented) The liquid adhesive of claim 4, wherein the hydrophilic polymer comprises polyethylene glycol.

6. (Previously presented) The liquid adhesive of claim 5, wherein the polyethylene glycol has an average molecular weight of about 600.

7. (Canceled)

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8. (Previously presented) The liquid adhesive of claim I, wherein the therapeutic agent further comprises a component selected from the group consisting of anti-inflammatory agents, anti-infective agents, immunosuppressive agents, and anesthetic agents.

9. (Canceled)

10. (Previously presented) The liquid adhesive of claim I, further comprising a water-soluble acidic anti degradation agent.

11. (Previously presented) The liquid adhesive of claim 10, wherein the water-soluble acidic antidegradation agent comprises Vitamin C.

12. (Currently amended) A method of sealing a wound, the method comprising the steps of:

approximating the wound;

applying a liquid adhesive comprising a liquid mixture of a cyanoacrylate, a therapeutic agent comprising an antibiotic encapsulated in a microcapsule, and a water soluble defect forming agent to a tissue surface surrounding the wound, wherein the microcapsule comprises comprising a protective shell configured to block chemical reaction between the antibiotic and the cyanoacrylate that blocks undesired reactions by substantially preventing direct contact of the antibiotic and the cyanoacrylate;

curing the adhesive, whereby the wound is sealed;

removing the defect forming agent from the cured adhesive by solvating the defect forming agent in a body fluid, whereby a plurality of defects in the cured adhesive are formed; and

delivering the antibiotic to the wound through the defects in the cured adhesive at a controlled rate, wherein the microcapsule is configured to provide provides long-term controlled release of the antibiotic from the cured adhesive.

13. (Canceled)

14. (Previously presented) The method of claim 12, wherein the cyanoacrylate comprises butyl cyanoacrylate.

15. (Previously presented) The method of claim 12, wherein the cyanoacrylate comprises octyl cyanoacrylate.

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16. (Original) The method of claim 12, wherein the defect forming agent comprises a hydrophilic polymer.

17. (Original) The method of claim 16, wherein the hydrophilic polymer comprises polyethylene glycol.

18. (Original) The method of claim 17, wherein the polyethylene glycol has an average molecular weight of about 600.

19. (Canceled)

20. (Previously presented) The method of claim 12, wherein the therapeutic agent further comprises a component selected from the group consisting of anti-inflammatory agents, anti-infective agents, immunosuppressive agents, and anesthetic agents.

21. (Canceled)

22. (Original) The method of claim 12, wherein the wound comprises a skin laceration.

23. (Previously presented) The method of claim 12, wherein the liquid adhesive further comprises a water-soluble acidic antidegradation agent.

24. (Original) The method of claim 23, wherein the water-soluble acidic antidegradation agent comprises Vitamin C.

25. (Canceled)

26. (Previously presented) The liquid adhesive of claim 1, wherein the microcapsule comprises a gelatin microcapsule.

27. (Previously presented) The liquid adhesive of claim 1, wherein the antibiotic comprises gatifloxacin.

28. (Previously presented) The liquid adhesive of claim 1, wherein the antibiotic comprises Penicillin G.

29. (Previously presented) The liquid adhesive of claim 1, wherein the antibiotic comprises Sulfanilamide.

30. (Canceled)

31. (Previously presented) The method of claim 12, wherein the microcapsule comprises a gelatin microcapsule.

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32. (Previously presented)The method of claim 12, wherein the antibiotic comprises gatifloxacin.

33. (Previously presented)The method of claim 12, wherein the antibiotic comprises Penicillin G.

34. (Previously presented)The method of claim 12, wherein the antibiotic comprises Sulfanilamide.